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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/520,903

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Jean-Pierre Isnard

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01/07/2009

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EXAMINER

CHEUNG, WILLIAM K

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

01/07/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/520,903	Applicant(s) ISNARD ET AL.	
	Examiner WILLIAM K. CHEUNG	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 December 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 11-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 11-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. In view of the amendment filed November 5, 2008, claim 10 has been cancelled. Claims 1-9, 11-16 are pending. The examiner also acknowledges the receipt of the Declaration filed March 17, 2008, and has reconsidered the Declaration for the instant office action as requested by applicants.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
3. Claims 1-9, 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wirth (US 4,316,825) in view of Durand et al. (EP 0 180 420), for the reasons adequately set forth from paragraph 4 of the office action of June 5, 2008.

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1. (Currently amended) An improvement in a process for the polymerization or copolymerization in the gas phase of olefin(s) by bringing the olefin(s) into contact, under polymerization or copolymerization conditions in a reactor in which the polymer or the copolymer is maintained in a fluidized bed ~~and/or agitated with mechanical stirring,~~ with a catalyst system, the improvement comprising, prior to the introduction of the catalyst system in the reactor, subjecting the reactor to a cleaning treatment that includes the steps of introducing into the reactor an alkane having from 4 to 8 carbon atoms, circulating said alkane across the reactor under pressure and elevated temperature, and then depressurizing and purging the reactor of the alkane, wherein the quantity of alkane used for the cleaning treatment is such that the alkane partial pressure is between 25 and 95% of the saturated vapor pressure of the alkane under the temperature and pressure treatment conditions.

Wirth (col. 3, line 52-52; col. 4, line 61-62) discloses a pre-start up cleaning step involving assembling the reactor, rinsed the reactor with dry hexane and purged overnight. Although Wirth does not explicitly disclose “circulating said alkane across the reactor”, the examiner has a reasonable basis that this claimed feature is inherently possessed in the “rinsed” teachings of Wirth because “rinsing the reactor” involving delivering the dry hexane to areas that are hard to reach, it would not be difficult to one of ordinary skill in art to recognize that “rinsing” involves “circulating” the dry hexane in order to clean all the critical areas of the reactor where it may make contact with the reactants in subsequent reactions or polymerizations.

The difference between the invention of claims 1-9, 11-16 and Wirth is that Wirth is silent on a step involving pressurizing the system while the reactor is being cleaned.

Durand et al. (page 29-35) disclose a fluidized bed reactor being cleaned through successive pressurizing the reactor under nitrogen at 90 °C, following by degassing to

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atmospheric pressure to successfully reach a water level of below 0.3 vpm. In view of the substantially identical endeavors of Wirth and Durand et al. of drying gas phase reactor for a polymerization where moisture can be detrimental to the polymerization, motivated by the expectation of success and effectiveness of pressurizing the reactor while rinse or purging the gas phase reactor, it would have been obvious to one of ordinary skill in art to incorporate the "pressurizing the reactor at elevated temperature" feature of Durand et al. into Wirth to obtain the invention of claims 1-9, 11-16.

Regarding the claimed "alkane partial pressure" of claims 1-9, 11-16, since Durand et al. (page 29-35) clearly disclose a fluidized bed reactor being cleaned through successive pressurizing the reactor under nitrogen at 90 °C, Durand et al. have adequately indicated the criticality of pressurizing the reactor at elevated temperature. Since Wirth has adequately disclose an amount of hexane for cleaning a gas phase reactor, motivated by the expectation of success of obtaining a dry reactor for performing a polymerization reaction process, it would have been obvious to one of ordinary skill in art to apply "routine optimization" technique to optimize the partial pressure of hexane in the disclosed pressurized and heated reactor to obtain the partial pressure features of claims 1-9, 11-16.

Regarding the pressure requirement (5 to 30 bars; 0.5 to 3 Mpa) of claim 14, Durand et al. (page 29-35) clearly disclose a fluidized bed reactor being cleaned through successive pressurizing the reactor under nitrogen at 90 °C at 1.8 Mpa.

Response to Arguments

4. Applicant's arguments filed November 5, 2008 have been fully considered but they are not persuasive.

Applicants in the Declaration (paragraph 12) argue that the process as claimed do not associate an alkane in the liquid phase. However, the applicants' claims as written do not exclude an alkane in the liquid form. Therefore, applicants' argument is not supported by the claims as written. Further, applicants must recognize that hexane used according to teachings of Wirth or Durand et al. exists in both liquid and gas forms in view of that hexane exists in liquid-gas equilibrium state inside a reactor.

Regarding applicants' argument that the claimed invention is an improvement on a polymerization process involving a fluidized bed reactor and that Wirth is not directed to using a fluidized bed reactor, applicants must recognize that a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. Since the recited improvement steps do not comprise a fluidized bed reactor, the processes as taught in Wirth or Durand et al. are adequate for the instant rejection.

Regarding applicants' comment that it is not possible to provide comparative data requested by the examiner because it is impractical to use a liquid to rinse a gas phase reactor, applicants must recognize that the comparative data are still required to overcome the 103 rejection set forth.

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Figure 1

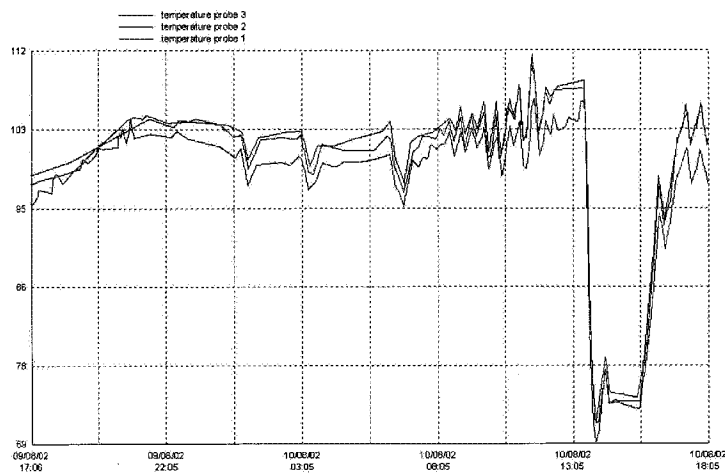
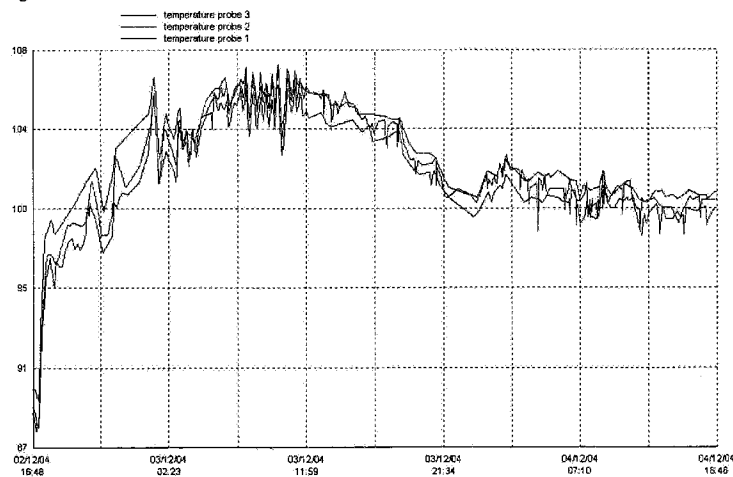


Figure 2



Regarding applicants' argument that Figures 1 and 2 provide the contrast between a process that has been rinsed (Figure 1) and a process that has not been rinsed (Figure 2), applicants fail to recognize that Figures 1 and 2 fail to provide the criticality of the claimed invention, which requires the pressurizing the reactor, by providing comparative data that are commensurate to the scope of the claimed invention and the art relied on for the rejection. Applicants must recognize that the difference between the claimed invention and the invention of Wirth is the pressurization

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of reactor for preparing a reactor for a polymerization process, not with or without rinsing with hexane.

Regarding applicants' argument that the recitation "alkane partial pressure is between 25 and 95%" inherently requires the alkane not to exist as a liquid, the examiner disagrees because the partial pressure range as claimed can be achieved by using a solvent mixture, where the partial pressure is dependent on the composition of solvent mixture. Applicants must recognize that the claims as written do not exclude an alkane comprising other solvents. Therefore, the argument filed in the Declaration of March 17, 2008 is not effective for overcoming the rejection set forth.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William K. Cheung whose telephone number is (571) 272-1097. The examiner can normally be reached on Monday-Friday 9:00AM to 2:00PM; 4:00PM to 8:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David WU can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/William K Cheung/
Primary Examiner, Art Unit 1796

William K. Cheung, Ph. D.
Primary Examiner
January 5, 2009

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